

Survey of Program Dynamics 2002 Food Security Status File Technical Documentation and User Notes

Data File and Documentation Prepared by
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Revision history of this document:

March 10, 2004— original creation of document

March 30, 2004—revised to account for SPD revision of IHHKEY0X variable and to more completely describe screening

Background

The Survey of Program Dynamics (SPD) 2002 Food Security Status File contains summary food security status information for households interviewed in the 2002 SPD. The food security status variables were calculated based on responses to the questions in the U.S. Household Food Security Survey Module, which was included in the SPD. The SPD 2002 Food Security Status File matches to the main SPD 2002 Cross-Sectional File at the household level.

The SPD 2002 Food Security Status File is intended to be used in conjunction with the SPD 2002 Cross-Sectional File produced by the U.S. Census Bureau. After matching to the SPD 2002 Cross-Sectional File, the combined data file can also be matched to earlier years' SPD data files, to SIPP data files for the 1992 and 1992 panels from which the SPD sample households were selected, and to earlier SPD and SPD Food Security Status Files. The SPD 2002 Cross-Sectional File contains demographic, economic, and social characteristics data for each member of interviewed households. Demographic data refer to the time of interview in various months in 2002. Income and program participation information generally refers to the preceding year. The food security and hunger questions refer to the 12 months prior to the date of interview in various months in 2002.

SPD data and further information on the SPD are available from the Census Bureau at:

<http://www.bls.census.gov/spd/>

Technical Description

The SPD 2002 Food Security Status File is an ASCII file containing 19,677 records. The length of each record is 41 characters. The data dictionary is included below as [Appendix A](#). SAS code to read the data file and create a SAS file is included as [Appendix B](#). Frequency tabulations of each of the food security scale and food security status variables are included as [Appendix C](#).

Matching to the SPD 2002 Cross-Sectional File

The SPD 2002 Food Security Status File contains one record for each unique household in the SPD 2002 Cross Sectional File whether or not the household was interviewed. It matches to the SPD 2002 Cross Sectional File by the variable IHHKEY0X. **IMPORTANT NOTE:** The Census Bureau issued a revision of the SPD 2002 Cross Sectional File in late March or early April 2004 to correct an error in the match variable, IHHKEY0X. The SPD 2002 Food Security Status File matches correctly to the revised SPD 2002 Cross Sectional File. To correctly match to an SPD 2002 Cross Sectional File issued prior to March 10, 2004, the IHHKEY0X variable in the SPD 2002 Cross Sectional File must first be corrected by replacing the final 3 characters of IHHKEY0X with the ADDIDEX variable. (In the December 31, 2003 release of the SPD 2002 Cross Sectional File, the final 3 characters of IHHKEY0X were incorrect for several hundred households. These households will be incorrectly matched or omitted unless the IHHKEY0X variable is corrected.)

Not-in-Universe Records and Households with Missing Food Security Status

Of the 19,677 unique current households in the SPD 2002 Food Security Status File, 7,209 are non-interview households (OUTCOMRX >= 213). Records for these households are included in the Food Security Status File with all food security status variables coded -1 (not in universe). An additional 438 households apparently broke of the interview before the preliminary food security screener variable (FDSUFFUX) or did not provide a valid response to any of the 18 food security questions. The food security status of these households is unknown, and the food security scale and food security status variables for these households are coded -9.

Food Security Status Variables

Food security status variables were calculated based on the 18 items in the U.S. Household Food Security Survey Module (FOOD01UX through FOOD18UX). Calculations were carried out in accordance with the standard methods described in *Measuring Household Food Security, Revised 2000* (Bickel et al, 2000, available: <http://www.fns.usda.gov/fsec/Resources.htm>). The children's food security variables were calculated in accordance with methods described in *Measuring Children's Food Security in U.S. Households, 1995-99* (Nord and Bickel 2002, available: <http://www.ers.usda.gov/briefing/foodsecurity>). Assessment of the food security items using statistical methods based on the Rasch measurement model indicated that model fit and relative item severities were very nearly identical to those in the 1998 Current Population Survey Food Security Supplement, so the use of the standard methods was appropriate.

Ten household food security summary variables are provided: 1 indicating screening status, and 9 indicating food security status (3 variables for each of three scales). The 3 scales are:

- **The Household Food Security Scale**, based on 18 items for households with children and 10 items for households without children.
- **The Adult Food Security Scale**, based on the 10 household and adult items in the 18 item scale. For households without children it is identical to the Household Food Security Scale. For households with children, it is calculated using the same methods as those used to calculate the Household Food Security Scale for households without children. **NOTE: For the 1999 SPD (when released), only this scale will be available.** Due to instrumentation problems in the 1999 survey, the child-referenced items were not asked of most households and will not be available on the data file. Variables based on the Adult Food Security Scale are provided in the 2002 file to facilitate comparisons between the two years' surveys.
- **The Children's Food Security Scale**, based on the 8 items that ask specifically about conditions among children in the household.

The variables are described conceptually here, and additional detail is provided in the data dictionary in Appendix A.

HFS: Food Security Screening Status (FSSCRNR2) identifies the screening status of households relative to the food security module. To reduce respondent burden and avoid awkward interview situations, households with high income who gave no indication of food stress on the preliminary screening question (FDSUFFUX) were skipped over the rest of the food security module and deemed to be food secure. Two additional screens, following questions FOOD04UX and FOOD10UX skip respondents over the remaining food security questions if they gave no indication of food problems in response to the questions since the preceding screen. The FSSCRNR2 variable is needed only for analysis of responses to individual questions in the module. It can be ignored if only the food security status variables are used.

HFS: Household Food Security Raw Score (FSRAWR2) is a count of the number of food security items in the Household Food Security Scale affirmed by the household respondent. This score along with

presence or absence of children in the household determines the household food security scale score and food security status.

HFS: Household Food Security Scale Score (FSSCALR2) is a measure of the severity of food insecurity or hunger experienced in the household in the previous 12 months, based on the Household Food Security Scale. This is a continuous, interval-level measure based on the Rasch measurement model and is appropriate for associative analyses such as correlation, regression, or analysis of variance. It is on the standard computational metric described in *Measuring Household Food Security, Revised 2000*. Valid values range from 1.43 to 13.03, with higher values indicating more severe food deprivation. Technically, the scale score is undefined for households that affirmed no items. These households are food secure, but the appropriate size of the interval from the score of households that affirmed one item is not known and varies from household to household. The variable is coded -6 for households that affirmed no items (or were screened out and deemed to be food secure) to remind users that these cases require special consideration in analyses.

HFS: Household Food Security Status Category (FSSTATR2) is a categorical measure of food security status based on the Household Food Security Scale that identifies households as food secure, food insecure without hunger, or food insecure with hunger. This variable is appropriate for comparing prevalence rates of food insecurity and hunger across subpopulations.

HFS: Adult Food Security Raw Score (FSRAADR2) is a count of the number of food security items in the Adult Food Security Scale affirmed by the household respondent. This score determines the adult food security scale score and food security status.

HFS: Adult Food Security Scale Score (FSSCADR2) is a measure of the severity of food insecurity or hunger experienced by adults in the household in the previous 12 months, based on the Adult Food Security Scale. This is a continuous, interval-level measure based on the Rasch measurement model and is appropriate for associative analyses such as correlation, regression, or analysis of variance. It is on the standard computational metric described in *Measuring Household Food Security, Revised 2000*. Valid values range from 1.72 to 11.05, with higher values indicating more severe food deprivation. Technically, the scale score is undefined for households that affirmed no items in the scale. These households are food secure, but the appropriate size of the interval from the score of households that affirmed one item is not known and varies from household to household. The variable is coded -6 for households that affirmed no items (or were screened out and deemed to be food secure) to remind users that these cases require special consideration in analyses.

HFS: Adult Food Security Status Category (FSSTADR2) is a categorical measure of food security status based on the Adult Food Security Scale that identifies households as food secure, food insecure without hunger, or food insecure with hunger. This variable is appropriate for comparing prevalence rates of food insecurity and hunger across subpopulations.

HFS: Children's Food Security Raw Score (FSRACHR2) is a count of the number of food security items in the Children's Food Security Scale affirmed by the household respondent. This score determines the children's food security scale score and food security status.

HFS: Children's Food Security Scale Score (FSSCCHR2) is a measure of the severity of food insecurity or hunger experienced by children in the household in the previous 12 months, based on the Children's Food Security Scale. This is a continuous, interval-level measure based on the Rasch measurement model and is appropriate for associative analyses such as correlation, regression, or analysis of variance. It is on the standard computational metric described in *Measuring Household Food Security, Revised 2000*. Valid values range from 4.11 to 12.25, with higher values indicating more severe food deprivation. Technically, the scale score is undefined for households that affirmed no child-referenced items. Children in these households are more food secure than those that affirmed 1 child-referenced item,

but the appropriate size of the interval from the score of households that affirmed one item is not known and varies from household to household. The variable is coded -6 for households that affirmed no items (or were screened out and deemed to be food secure) to remind users that these cases require special consideration in analyses.

HFS: Children's Food Security Status Category (FSSTCHR2) is a categorical measure that identifies households with hunger among children based on the Children's Food Security Scale. This variable is appropriate for comparing prevalence rates of hunger among children across subpopulations.

Appendix A. Data Dictionary

```
*****
*   HOUSEHOLD MATCH VARIABLES   *
*****
DATA      SIZE   BEGIN
D IHHKEYOX  15     1
T SC: Unique household identifier 01
      Unique household identifier for use as a
      match key for households. Characters 1-3
      SIPP Panel B12 (1992), B13 (1993)
      Characters 4-12 PP_ID Characters 13-15
      Current Address ID
U All Households

*****
*   HOUSEHOLD FOOD SECURITY SCALE VARIABLES   *
*****

D FSSCRNR2   2     16
T HFS: Food Security Screening Status
      Screening status, food security module
U Interviewed households
V   1      .Did not pass preliminary screen - assumed food secure
V   2      .Skip out after Block 1
V   3      .Skip out after Block 2
V   4      .Entered Block 3
V  -1      .Not In Universe (not interviewed)
V  -9      .Missing--no valid food security items

D FSRWR2     2     18
T HFS: Household Food Security Raw Score
      Household food security raw score (number of affirmative responses)
U Interviewed households
V   0      .No affirmative responses, or screened out
V  1:18    .Number of affirmative responses
V  -1      .Not In Universe (not interviewed)
V  -9      .Missing--no valid food security items

D FSSCALR2   4     20
T HFS: Household Food Security Scale Score
      Household food security scale score (Rasch)
      (2 implied decimal places)
U Interviewed households
V  -6      .No affirmative responses, or screened out
V          .scale score undefined
V  1.43:   .Number
V  13.03   .Number
V  -1      .Not In Universe (not interviewed)
V  -9      .Missing--no valid food security items

D FSSTATR2   2     24
T HFS: Household Food Security Status Category
      Household food security status category
U Interviewed households
V   1      .Food Secure
V   2      .Food Insecure without Hunger
```

V 3 .Food Insecure with Hunger
V -1 .Not In Universe (not interviewed)
V -9 .Missing--no valid food security items

* ADULT FOOD SECURITY SCALE VARIABLES *

D FSRAADR2 2 26
T HFS: Adult Food Security Raw Score
Adult food security raw score (number of affirmative responses)
U Interviewed households
V 0 .No affirmative responses, or screened out
V 1:10 .Number of affirmative responses
V -1 .Not In Universe (not interviewed)
V -9 .Missing--no valid food security items

D FSSCADR2 4 28
T HFS: Adult Food Security Scale Score
Adult food security scale score (Rasch)
(2 implied decimal places)
U Interviewed households
V -6 .No affirmative responses, or screened out
V .scale score undefined
V 1.72:
V 11.05 .Number
V -1 .Not In Universe (not interviewed)
V -9 .Missing--no valid food security items

D FSSTADR2 2 32
T HFS: Adult Food Security Status Category
Adult food security status category
U Interviewed households
V 1 .Food Secure
V 2 .Food Insecure without Hunger
V 3 .Food Insecure with Hunger
V -1 .Not In Universe (not interviewed)
V -9 .Missing--no valid food security items

* CHILDREN'S FOOD SECURITY SCALE VARIABLES *

D FSRACHR2 2 34
T HFS: Children's Food Security Raw Score
Children's food security raw score (number of affirmative responses)
U Interviewed households
V 0 .No affirmative responses, or screened out
V 1:8 .Number of affirmative responses
V -1 .Not In Universe (not interviewed or no child present)
V -9 .Missing--no valid child food security items

D FSSCCHR2 4 36
T HFS: Children's Food Security Scale Score
Children's food security scale score (Rasch)
(2 implied decimal places)
U Interviewed households
V -6 .No affirmative responses, or screened out
V .scale score undefined
V 4.11:
V 12.25 .Number
V -1 .Not In Universe (not interviewed or no child present)
V -9 .Missing--no valid child food security items

D FSSTCHR2 2 40
T HFS: Children's Hunger Status Category
Children's hunger status category
U Interviewed households
V 1 .Hungern Unlikely among Children
V 2 .Food Insecure with Hunger among Children
V -1 .Not In Universe (not interviewed or no child present)
V -9 .Missing--no valid food security items

Appendix B

SAS Program to Read SPD 2002 Food Security Data File

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*SAS program to read public-use SPD 2002 food security data file;

data temp; infile 'd:\foodsecu\spd\spd2002\spd02fs.dat' lrecl=41;
*modify path and filename in accordance with file location in your system;

input
@1  ihhkey0x $ 15.      /* first variable is to match by 2002 household      */
@16 fsscrnr2  2.        /* food security module screening status                          */
@18 fsrawr2   2.        /* household food security raw score                             */
@20 fsscalr2  4.        /* household food security scale score (interval-level measure)  */
@24 fsstatr2  2.        /* household food security status category (categorical measure) */
@26 fsraadr2  2.        /* adult food security raw score                                  */
@28 fsscadr2  4.        /* adult food security scale score (interval-level measure)      */
@32 fsstadr2  2.        /* adult food security status category (categorical measure)      */
@34 fsrchr2   2.        /* children's food security raw score                             */
@36 fsscchr2  4.        /* children's food security scale score (interval-level measure) */
@40 fsstchr2  2.;      /* children's food security status category (categorical measure) */

if fsscalr2 gt 0 then fsscalr2=fsscalr2/100; *to restore the 2 decimal places;
if fsscadr2 gt 0 then fsscadr2=fsscadr2/100; *to restore the 2 decimal places;
if fsscchr2 gt 0 then fsscchr2=fsscchr2/100; *to restore the 2 decimal places;
run;

proc freq data=temp; tables fsscrnr2--fsstchr2;
title1 'Run 15/2: HH, unweighted';
run;

*This SAS data set will now match to the SPD 2002 Cross-Sectional File by IHHKEY0X;
*If SPD 2002 Cross-Sectional File is dated earlier than March 10, 2004, IHHKEY0X must be
corrected by replacing its final 3 characters with the value of ADDIDEX;
*The 10 food security variables are stored without leading zeros;

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Appendix C. **Frequencies of Variables in SPD 2002 Food Security Data File**

Run 15/2: HH, unweighted

The FREQ Procedure

fsscrnr2	Frequency	Percent	Cumulative Frequency	Cumulative Percent
-9	438	2.23	438	2.23
-1	7209	36.64	7647	38.86
1	6829	34.71	14476	73.57
2	3339	16.97	17815	90.54
3	1077	5.47	18892	96.01
4	785	3.99	19677	100.00

fsrawr2	Frequency	Percent	Cumulative Frequency	Cumulative Percent
-9	438	2.23	438	2.23
-1	7209	36.64	7647	38.86
0	10190	51.79	17837	90.65
1	399	2.03	18236	92.68
2	348	1.77	18584	94.45
3	321	1.63	18905	96.08
4	130	0.66	19035	96.74
5	160	0.81	19195	97.55
6	138	0.70	19333	98.25
7	93	0.47	19426	98.72
8	77	0.39	19503	99.12
9	56	0.28	19559	99.40
10	59	0.30	19618	99.70
11	12	0.06	19630	99.76
12	12	0.06	19642	99.82
13	10	0.05	19652	99.87
14	13	0.07	19665	99.94
15	6	0.03	19671	99.97
17	3	0.02	19674	99.98
18	3	0.02	19677	100.00

fsscalr2	Frequency	Percent	Cumulative Frequency	Cumulative Percent
-9	438	2.23	438	2.23
-6	10190	51.79	10628	54.01
-1	7209	36.64	17837	90.65
1.43	195	0.99	18032	91.64
1.72	204	1.04	18236	92.68
2.56	171	0.87	18407	93.55
3.1	177	0.90	18584	94.45
3.4	137	0.70	18721	95.14
4.14	71	0.36	18792	95.50
4.23	184	0.94	18976	96.44
4.81	93	0.47	19069	96.91
5.23	59	0.30	19128	97.21
5.43	82	0.42	19210	97.63
6.02	43	0.22	19253	97.85
6.16	67	0.34	19320	98.19
6.61	29	0.15	19349	98.33
7.07	56	0.28	19405	98.62
7.18	31	0.16	19436	98.78
7.74	23	0.12	19459	98.89
8	50	0.25	19509	99.15
8.28	12	0.06	19521	99.21
8.79	12	0.06	19533	99.27
8.98	48	0.24	19581	99.51
9.31	10	0.05	19591	99.56
9.84	13	0.07	19604	99.63
10.15	25	0.13	19629	99.76
10.42	6	0.03	19635	99.79

11. 05	36	0. 18	19671	99. 97
12. 16	3	0. 02	19674	99. 98
13. 03	3	0. 02	19677	100. 00

fsstatr2	Frequency	Percent	Cumul ative Frequency	Cumul ative Percent
-9	438	2. 23	438	2. 23
-1	7209	36. 64	7647	38. 86
1	10937	55. 58	18584	94. 45
2	736	3. 74	19320	98. 19
3	357	1. 81	19677	100. 00

fsraadr2	Frequency	Percent	Cumul ative Frequency	Cumul ative Percent
-9	441	2. 24	441	2. 24
-1	7209	36. 64	7650	38. 88
0	10246	52. 07	17896	90. 95
1	429	2. 18	18325	93. 13
2	364	1. 85	18689	94. 98
3	383	1. 95	19072	96. 93
4	122	0. 62	19194	97. 55
5	117	0. 59	19311	98. 14
6	112	0. 57	19423	98. 71
7	85	0. 43	19508	99. 14
8	67	0. 34	19575	99. 48
9	44	0. 22	19619	99. 71
10	58	0. 29	19677	100. 00

fsscadr2	Frequency	Percent	Cumul ative Frequency	Cumul ative Percent
-9	441	2. 24	441	2. 24
-6	10246	52. 07	10687	54. 31
-1	7209	36. 64	17896	90. 95
1. 72	429	2. 18	18325	93. 13
3. 1	364	1. 85	18689	94. 98
4. 23	383	1. 95	19072	96. 93
5. 23	122	0. 62	19194	97. 55
6. 16	117	0. 59	19311	98. 14
7. 07	112	0. 57	19423	98. 71
8	85	0. 43	19508	99. 14
8. 98	67	0. 34	19575	99. 48
10. 15	44	0. 22	19619	99. 71
11. 05	58	0. 29	19677	100. 00

fsstadr2	Frequency	Percent	Cumul ative Frequency	Cumul ative Percent
-9	441	2. 24	441	2. 24
-1	7209	36. 64	7650	38. 88
1	11039	56. 10	18689	94. 98
2	622	3. 16	19311	98. 14
3	366	1. 86	19677	100. 00

fsrchr2	Frequency	Percent	Cumul ative Frequency	Cumul ative Percent
-9	236	1. 20	236	1. 20
-1	14077	71. 54	14313	72. 74
0	4774	24. 26	19087	97. 00
1	271	1. 38	19358	98. 38
2	153	0. 78	19511	99. 16
3	122	0. 62	19633	99. 78
4	16	0. 08	19649	99. 86
5	8	0. 04	19657	99. 90
6	7	0. 04	19664	99. 93
7	8	0. 04	19672	99. 97
8	5	0. 03	19677	100. 00

fsscchr2	Frequency	Percent	Cumulative Frequency	Cumulative Percent
-9	236	1.20	236	1.20
-6	4774	24.26	5010	25.46
-1	14077	71.54	19087	97.00
4.11	271	1.38	19358	98.38
5.85	153	0.78	19511	99.16
7.54	122	0.62	19633	99.78
8.79	16	0.08	19649	99.86
9.62	8	0.04	19657	99.90
10.45	7	0.04	19664	99.93
11.5	8	0.04	19672	99.97
12.25	5	0.03	19677	100.00

fsstchr2	Frequency	Percent	Cumulative Frequency	Cumulative Percent
-9	236	1.20	236	1.20
-1	14077	71.54	14313	72.74
1	5336	27.12	19649	99.86
2	28	0.14	19677	100.00